Appl. No. 09/745,388
Amdt. dated June 29, 2004
Reply to Office Action of January 14, 2004

PATENT

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1   1-18 (cancelled)

1   Claim 19 (currently amended): A method for diagnosing a disease in a subject

2 by detecting a plurality of diagnostic markers at least one diagnostic marker of the a disease

3 comprising the steps of:

4   a) providing a substrate for use in desorption spectrometry that comprises

5 at least one addressable location, each addressable location comprising an adsorbent attached to

6 the substrate wherein the adsorbent resolves at least one of the diagnostic markers under an

7 elution condition;

8   ba) contacting at least one the adsorbent that is attached to a substrate

9 with a biological sample from the subject to allow the at least one adsorbent to bind the

10 diagnostic markers;

11   eb) washing the at least one adsorbent under the elution condition with at

12 least one eluant to remove unbound material and to allow retention of the diagnostic marker or

13 markers by the at least one adsorbent; and

14   dc) detecting retained diagnostic marker or markers by desorption

15 spectrometry; and

16   d) providing a diagnosis based on detection of the plurality of diagnostic

17 markers.

1   20 (currently amended): The method of claim 19, wherein a plurality of

2 adsorbents is attached to at least one substrate, each adsorbent attached in a different addressable

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3 location ~~further comprising detecting a plurality of diagnostic markers and the addressable~~

4 ~~locations comprise adsorbents that resolve the plurality of diagnostic markers~~.

21-31 (cancelled)

1 32 (previously presented): The method of claim 19 wherein the disease is

2 selected from cancer, heart disease, autoimmune disease, viral infection, Alzheimer's disease and

3 diabetes.

1 33 (previously presented): The method of claim 19 wherein the biological

2 sample is selected from tissue, blood, urine, stool, lymph, cerebrospinal fluid and interarticular

3 fluid.

1 34 (previously presented): The method of claim 19 wherein the biological

2 sample is derived from a pathological cell.

1 35 (currently amended): The method of claim 19 wherein at least one ~~the~~

2 adsorbent is a hydrophobic adsorbent.

1 36 (currently amended): The method of claim 19 wherein at least one ~~the~~

2 adsorbent is a thiophilic adsorbent.

1 37 (currently amended): The method of claim 19 wherein at least one ~~the~~

2 adsorbent is a normal phase adsorbent.

1 38 (currently amended): The method of claim 19 wherein at least one ~~the~~

2 adsorbent is an anion~~ic~~ exchange adsorbent.

1 39 (currently amended): The method of claim 19 wherein at least one ~~the~~

2 adsorbent is a cation~~ic~~ exchange adsorbent.

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1   40 (currently amended): The method of claim 19 wherein <u>at least one</u> ~~the~~

2 adsorbent is a metal ion adsorbent.

1   41 (currently amended): The method of claim 19 wherein <u>at least one</u> ~~the~~

2 adsorbent is a glycoprotein interaction adsorbent.

1   42 (currently amended): The method of claim 19 wherein <u>at least one</u> ~~the~~

2 adsorbent comprises a nucleic acid.

1   43 (currently amended): The method of claim 19 wherein <u>at least one</u> ~~the~~

2 adsorbent comprises <u>a plurality of</u> ~~an antibody or~~ antibodies that bind the diagnostic ~~marker or~~

3 markers.

1   44 (currently amended): The method of claim <u>43 wherein the antibodies are</u>

2 <u>attached to the substrate at the same addressable location</u> ~~20 further comprising providing a~~

3 ~~diagnosis of the disease based on detection of the diagnostic markers~~.

1   45 (currently amended): The method of claim <u>43 wherein the diagnostic markers</u>

2 <u>are bound by antibodies at different addressable locations</u> ~~20 wherein the disease is selected from~~

3 ~~cancer, heart disease, autoimmune disease, viral infection, Alzheimer's disease and diabetes~~.

       46-56 (cancelled)

1   57 (currently amended): The method of any of claims 19, 20 <u>and 32-45</u> ~~and 31-~~

2 ~~56~~ wherein the marker or markers comprise a polypeptide.

1   58 (currently amended): The method of any of claims 19, 20 <u>and 32-45</u> ~~and 31-~~

2 ~~56~~ wherein the marker or marker comprises a nucleic acid.

1   59 (currently amended): The method of any of claims 19, 20 <u>and 32-45</u> ~~and 31-~~

2 ~~56~~ wherein desorption spectrometry is laser desorption/ionization mass spectrometry.

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1   60 (previously presented): The method of claim 57 wherein desorption

2   spectrometry is laser desorption/ionization mass spectrometry.

1   61 (previously presented): The method of claim 58 wherein desorption

2   spectrometry is laser desorption/ionization mass spectrometry.